

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:  
William G. SKENE

Serial No.: 10/597,722

Filed: August 4, 2006

For: CONJUGATED THIOPHENES HAVING  
CONDUCTING PROPERTIES AND  
SYNTHESIS OF SAME

Group Art Unit: 1625  
Examiner: Unknown  
Atty. Dkt. No.: BRKP:029US

Confirmation No.: 5400

CERTIFICATE OF ELECTRONIC TRANSMISSION  
37 C.F.R. § 1.8

I hereby certify that this correspondence is being  
electronically filed with the United States Patent and  
Trademark Office via EFS-Web on the date below:

March 12, 2007  
Date

Michael R. Krawzsenek

INFORMATION DISCLOSURE STATEMENT

**MS AMENDMENT**  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Sir:

In compliance with the duty of disclosure under 37 C.F.R. § 1.56, it is respectfully  
requested that this Information Disclosure Statement be entered and the documents listed on  
attached Form PTO-1449 be considered by the Examiner and made of record. Copies of the  
listed documents required by 37 C.F.R. § 1.98(a)(2) are enclosed for the convenience of the  
Examiner.

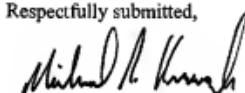
In accordance with 37 C.F.R. §§ 1.97(g), (h), this Information Disclosure Statement is  
not to be construed as a representation that a search has been made, and is not to be construed to

be an admission that the information cited is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

The present Information Disclosure Statement is being filed prior to the receipt of a first Official Action reflecting an examination on the merits, and hence is believed to be timely filed in accordance with 37 C.F.R. § 1.97(b). No fees are believed to be due in connection with the filing of this Information Disclosure Statement, however, should any fees under 37 C.F.R. §§ 1.16 to 1.21 be deemed necessary for any reason relating to these materials, the Commissioner is authorized to deduct the appropriate fees from Fulbright & Jaworski Deposit Account No.: 50-1212/BRKP:029US.

Applicant respectfully requests that the listed documents be made of record in the present case.

Respectfully submitted,



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Date: March 12, 2007

Form PTO-1449 (modified)		Atty. Docket No.: BRKP:029US	Serial No.: 10/597,722
List of Patents and Publications for Applicant's			
INFORMATION DISCLOSURE STATEMENT			
(Use several sheets if necessary)			
U.S. Patent Documents <i>See Page I</i>		Foreign Patent Documents <i>See Page I</i>	Other Art <i>See Page I</i>

### U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.

### Foreign Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Country	Language
	B1	WO 2004/03044	1/8/04	WIPO	English

### Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
	C1	Blanchard <i>et al.</i> , "Bridged Dithienylethylenes as Precursors of Small Bandgap Electrogenerated Conjugated Polymers," <i>J. Org. Chem.</i> , 62:2401-2408, 1997.
	C2	Brabec <i>et al.</i> , "Plastic Solar Cells," <i>Adv. Funct. Mater.</i> , 11:15-26, 2001.
	C3	D'Alelio, "Polyazomethines," <i>Encyclopedia of Polymer Science and Technology</i> , 10:659-667, 1969.
	C4	Elandaloussi <i>et al.</i> , "Effect of Chain Extension on the Electrochemical and Electronic Properties of $\pi$ -Conjugated Soluble Thienylenevinylene Oligomers," <i>J. Am. Chem. Soc.</i> , 119:10774-10784, 1997.
	C5	Jayakannan <i>et al.</i> , "Synthesis and Structure-Property Relationship of New Donor-Acceptor-Type Conjugated Monomers and Polymers on the Basis of Thiopene and Benzothiadiazole," <i>J. Polym. Sci. Part A: Polym. Chem.</i> , 40:251-261, 2002.
	C6	Kintzel <i>et al.</i> , "Ring-Chain Equilibrium between an [18]Cyclacene Derivative and a Ladder Oligomer," <i>Eur. J. Org. Chem.</i> , 99-105, 1998.
	C7	Kraft <i>et al.</i> , "Electroluminescent Conjugated Polymers – Seeing Polymers in a New Light," <i>Angew. Chem. Int. Ed.</i> , 37:402-428, 1998.
	C8	Lavastre <i>et al.</i> , "Discovery of New Fluorescent Materials from Fast Synthesis and Screening of Conjugated Polymers," <i>J. Am. Chem. Soc.</i> , 124:5278-5279, 2002.

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<b>U.S. Patent Documents</b> <i>See Page 1</i>		<b>Foreign Patent Documents</b> <i>See Page 1</i>	<b>Other Art</b> <i>See Page 1</i>

### Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
	C9	Leclerc, "Polyfluorenes: Twenty Years of Progress," <i>J. Polym. Sci. Part A: Polym. Chem.</i> , 17:2867-2873, 2001.
	C10	Lemaire and Garreau, "Design of Poly(thiophene) Containing Oxyalkyl Substituents," <i>New J. Chem.</i> , 13:863-871, 1996.
	C11	MacDiarmid, "Synthetic Metals: A Novel Role for Organic Polymers (Nobel Lecture)," <i>Angew. Chem. Int. Ed.</i> , 40:2581-2590, 2001.
	C12	Middleton <i>et al.</i> , "Heterocyclic Compounds from Tetracyanoethylene," <i>J. Am. Chem. Soc.</i> , 80:2822-2829, 1958.
	C13	Roncalli <i>et al.</i> , "An Efficient Strategy Towards Small Bandgap Polymers: The Rigidification of the $\pi$ -Conjugated System," <i>C. Adv. Mater.</i> , 6:846-848, 1994.
	C14	Roncalli, "Conjugated Poly(thiophenes): Synthesis, Functionalization, and Applications," <i>Chem. Rev.</i> , 92:711-738, 1992.
	C15	Rowan <i>et al.</i> , "Dynamic Covalent Chemistry," <i>Angew. Chem. Int. Ed.</i> , 41:898-952, 2002.
	C16	Ruben and Zobel, "Die Kristallstruktur des <i>trans</i> -1,2-Di-2-thienyläthens," <i>Acta Crystallogr. Section B Struct. Crystallogr. Cryst. Chem.</i> , 31:2632-2634, 1975.
	C17	Rupprecht, <i>Conductive Polymers and Plastics in Industrial Applications</i> , Plastics Design Library, Brookfield, Conn., 1999.
	C18	Skene and Dufresne, "Easy One-Pot Synthesis of Energy Transfer Cassettes," <i>Org. Lett.</i> , 6:2949-2952, 2004.
	C19	Skene and Trefz, "Fast and Easy Synthesis of Conjugated Oligomers," <i>Polym. Mater.: Sci. &amp; Eng.</i> , 91:326-327, 2004.
	C20	Skene and Trefz, "New Synthetic Route for Conjugated Thiophenes," <i>Polym. Prepr.</i> , 45:563-564.
	C21	Skene, "A Novel Synthetic Route For Conjugated Thiophenes," <i>Polym. Prepr.</i> , 45:252-253, 2003.
	C22	Sun <i>et al.</i> , "The Synthesis and Characterization of Carbazolyl Azomethine," <i>J. Polym. Prepr.</i> , 44:960-961, 2003.

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**Other Art (Including Author, Title, Date Pertinent Pages, Etc.)**


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Exam. Init.	Ref. Des.	Citation
	C23	Vegh <i>et al.</i> , "Organic conductors based on 2,5-diamino-3,4-dicyanothiophene and diaminomaleonitrile and their transformation to new phthalocyanine analogues," <i>Chemistry of Heterocyclic Compounds</i> , 31:1238-1240, 1995.
	C24	Wang <i>et al.</i> , "Synthesis and Characterization of A New Conjugated Aromatic Poly(azomethine) Derivative Based on the 3',4'-Dibutyl- $\alpha$ -Terthiophene Building Block," <i>Macromolecules</i> , 29:3147-3156, 1996.
	C25	Yang and Jenekhe, "Conjugated Aromatic Poly(azomethines). 1. Characterization of Structure, Electronic Spectra, and Processing of Thin Films from Soluble Complexes, <i>Chem. Mater.</i> , 3:878-887, 1991.
	C26	Yang and Jenekhe, "Conjugated Aromatic Polyimines. 2. Synthesis, Structure, and Properties of New Aromatic Polyazomethines," <i>Macromolecules</i> , 28:1180-1196, 1995.
	C27	Zobel and Ruban, "Die Kristallstruktur des 2,5-Distyrylthiophens und des 2,5-Bis(2-thienylvinyl)-thiophens," <i>Acta Crystallogr. Section B Struct. Crystallogr. Cryst. Chem.</i> , 34:1652-1657, 1978.
	C28	Zong <i>et al.</i> , "3,4-Alkylenedioxy ring formation via double Mitsunobu reactions: an efficient route for the synthesis of 3,4-ethylenedioxythiophene (EDOT) and 3,4-propylenedioxythiophene (PropDOT) derivatives as monomers for electron-rich conducting polymers," <i>Chem. Commun.</i> , 2498-2499, 2002.

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